

## CLAIMS

What is claimed is:

- 5 1. An on-chip inductor consisting of:
- at least one dielectric layer;
- at least one conductive winding on the at least one
- 10 dielectric layer; and
- P-well having a major surface parallel to a major surface of the dielectric layer.
- 15 2. The on-chip inductor of claim 1 further consists of:
- a field oxide having a major surface that is juxtaposed to the major surface of the P-well.
- 20 3. The on-chip inductor of claim 1 further consists of:
- the at least one dielectric layer including one layer; and
- the at least one conductive winding including a spiral
- 25 winding on the one layer.
4. The on-chip inductor of claim 1 further consists of:
- the at least one dielectric layer includes a plurality of
- 30 layers; and

the at least conductive winding includes a plurality of windings on the plurality of layers.

5        5.    The on-chip inductor of claim 1 further consists of:

the at least one dielectric layer includes a plurality of layers; and

10        the at least conductive winding includes a plurality of spiral windings on the plurality of layers.

6.    The on-chip inductor of claim 1 further consists of:

15        a substrate having a major surface parallel to the major surface of the at least one dielectric layer.

7.    The on-chip inductor of claim 1 further consists of:

20        a secondary winding magnetically coupled to the conductive winding.

8.    The on-chip inductor of claim 1, wherein the at least one conductive winding further consists of:

25        center tap operably coupled to a reference potential to produce a differential inductor.

9. An on-chip inductor consisting of:

at least one dielectric layer;

5 at least one conductive winding on the at least one dielectric layer; and

field oxide layer having a major surface parallel to a major surface of the dielectric layer.

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10. The on-chip inductor of claim 9 further consists of:

P-well having a major surface that is juxtaposed to the major surface of the field oxide layer.

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11. The on-chip inductor of claim 9 further consists of:

a secondary winding magnetically coupled to the conductive winding.

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12. The on-chip inductor of claim 9, wherein the at least one conductive winding further consists of:

center tap operably coupled to a reference potential to

25 produce a differential inductor.

13. An on-chip inductor consisting of:

at least one dielectric layer;

5 at least one conductive winding on the at least one dielectric layer; and

poly silicon layer having a major surface parallel to a major surface of the dielectric layer.

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14. The on-chip inductor of claim 13 further consists of:

a secondary winding magnetically coupled to the conductive winding.

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15. The on-chip inductor of claim 13, wherein the at least one conductive winding further consists of:

center tap operably coupled to a reference potential to  
20 produce a differential inductor.

16. A method for manufacturing an on-chip inductor consisting of:

creating at least one dielectric layer;

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creating at least one conductive winding on the at least one dielectric layer; and

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creating a P-well having a major surface parallel to a major surface of the dielectric layer.

17. The method of claim 16 further consists of:

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creating a field oxide having a major surface that is juxtaposed to the major surface of the P-well.

18. The method of claim 16 further consists of:

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creating the at least one dielectric layer to include one layer; and

creating the at least one conductive winding to include a spiral winding on the one layer.

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19. The method of claim 16 further consists of:

creating the at least one dielectric layer to include a plurality of layers; and

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creating the at least conductive winding to include a plurality of single windings on the plurality of layers.

20. The method of claim 16 further consists of:

creating the at least one dielectric layer to include a plurality of layers; and

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creating the at least conductive winding to include a plurality of spiral windings one the plurality of layers.

21. The method of claim 16 further consists of:

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creating a substrate having a major surface parallel to the major surface of the at least one dielectric layer.

22. The method of claim 16 further consists of:

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creating a secondary winding magnetically coupled to the conductive winding.

23. The method of claim 16, wherein the at least one conductive winding further consists of:

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creating a center tap operably coupled to a reference potential to produce a differential inductor.

24. A method for manufacturing an on-chip inductor consisting of:

creating at least one dielectric layer;

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creating at least one conductive winding on the at least one dielectric layer; and

creating a field oxide layer having a major surface  
10 parallel to a major surface of the dielectric layer.

25. The method of claim 24 further consists of:

creating a P-well having a major surface that is juxtaposed  
15 to the major surface of the field oxide layer.

26. The method of claim 24 further consists of:

creating a secondary winding magnetically coupled to the  
20 conductive winding.

27. The method of claim 24, wherein the at least one conductive winding further consists of:

25 creating a center tap operably coupled to a reference potential to produce a differential inductor.

28. A method for manufacturing an on-chip inductor consisting of:

creating at least one dielectric layer;

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creating at least one conductive winding on the at least one dielectric layer; and

creating poly silicon layer having a major surface parallel  
10 to a major surface of the dielectric layer.

29. The method of claim 28 further consists of:

creating a secondary winding magnetically coupled to the  
15 conductive winding.

30. The method of claim 28, wherein the at least one conductive winding further consists of:

20 creating a center tap operably coupled to a reference potential to produce a differential inductor.